

REMARKS/ARGUMENT**Request for Personal Interview:**

Attached hereto is a Form PTOL-413A. Applicants' representative will contact the Examiner by telephone to set a mutually convenient date and time.

Regarding the Claims in General:

Claims 26-40, and 42-51 remain pending. Claims 26-37, directed to invention I as defined by the Examiner, are currently under examination. Claims 38-40, and 42-49, directed to invention II, and claim 50, directed to invention III are withdrawn from further consideration at this time.

Claims 26, 30, 34 and 51 have been amended to address the issues raised in the Office Action, and to highlight certain previously claimed features which the Examiner may not have fully appreciated and to which proper significance may not have been attributed, as discussed below.

Regarding The Allowable Subject Matter

Applicants note with appreciation the Examiner's continuing indication that claim 36 would be allowed if amended to overcome the rejection under 35 U.S.C. 112, and if rewritten in independent form. Because this claim is ultimately dependent on claim 26 which is believed to be allowable, claim 36 has been retained in dependent form pending the Examiner's further consideration. Also, applicants respectfully note that there appears to be no outstanding rejection under 35 U.S.C. 112, and if the continuing statement to this effect was not an oversight, clarification is requested.

Regarding the Objection to Claims 30 and 34:

The errors in these claims have been corrected.

Regarding the Prior Art Rejections:

In the outstanding Office Action, claims 26 and 32 are rejected as anticipated by Cobbley et al. U.S. Patent 6,268,275 (Cobbley), claims 27-29 are rejected as unpatentable over Cobbley in view of Ooroku et al. U.S. Patent 6,413,850 (Ooroku), claims 27-31 and 33-35 are rejected as

unpatentable over Cobbley in view of Kasai et al. U.S. Patent 6,390,351 (Kasai), and claim 37 is rejected as obvious over Cobbley in view of Fjelstad U.S. Patent 6,253,992 (Fjelstad). Claims 26 and 51 have been amended to further emphasize a previously claimed feature to which proper significance appears not have been attributed by the Examiner.

As previously pointed out, an important feature of the invention is that the array of apertures is offset, and located at *one end* of the template.

Cobbley's apertures are centrally located, as clearly illustrated in Fig. 4, and not offset to one side as in the present invention. Thus, in Cobbley, as in the other prior art, the ball reservoir 50 moves into *and out of* communication with the template opening area 32 as the reservoir moves in a first direction from a first standby position to a second standby position.

As now presented, claim 26 describes the container for the solder balls as:

configured and operable to move in a first direction from a first position remote from the positioning member to a second position directly in communication with the positioning member to provide solder balls to the positioning member, and to move in a second direction opposite to the first direction from the second position to the first position to move the solder balls not in required positions away from the positioning member . . .

It is respectfully submitted that this clearly distinguishes over Cobbley. Perhaps, however, the Examiner is interpreting the recited second position as being the intermediate position illustrated in Fig. 4. That, of course, is not the intent, as the claimed first and second positions are obviously *end* positions. For the Examiner to interpret otherwise, is strained, at best.

Nevertheless, to avoid any possible doubt as to the intended scope of claim 26, applicants propose to amend claim 26 *without any change in scope*, to read as follows:

a container for a plurality of solder balls, the container being configured and operable to move in a first direction from a first end position remote from the positioning member to a second end position directly in communication with the positioning member to provide solder balls to the positioning member, and to move in a second direction opposite to the first direction from the second end position to the first end position to move the solder balls not in required positions away from the positioning member . . .

With this change, it should be clear that claim 26 is not anticipated by Cobbley, and should be allowed.

Claims 27-29, which are dependent on claim 26, and claim 51, which applicants propose to amend in the same manner as claim 26, are likewise patentable over Cobbley in view of Ooroku. Ooroku does not cure the fundamental deficiency in Cobbley, i.e., that the aperture pattern in Cobbley's template are not offset to one end. In this connection, the Examiner, on page 5 of the Office Action, has asserted that Ooroku shows apertures substantially toward one end of the template, and has cited Figs. 5 and 6 of the reference to support his interpretation.

It is respectfully submitted that the Examiner's interpretation of Ooroku is incorrect. For one thing, as shown in Fig. 4, the array of apertures is centrally located. In addition, the left and right ends of the template in Figs. 5 and 6 are shown truncated, and therefore can not be relied upon to support the Examiner's interpretation. Thus, the combination of Cobbley and Ooroku would not meet the requirements of the rejected claims for this reason alone.

The rejection of claim 27-31 and 33-35 as obvious over Cobbley in view of Kasai is also improper for the reasons stated above. In Kasai, the apertures in arranging member 10 are centrally located. Thus, the deficiency in Cobbley remains when the references are combined.

These claims are patentable over the combination of Cobbley and Kasai for an additional reason as well. In Kasai's first embodiment (illustrated in Figs. 1-8), the solder balls are stored in recesses 111 at opposite ends of arranging member 10, and are distributed by the movement of damming-up plate 12. For this purpose, the entire assembly is tilted so that plate 12 moves downward as it crosses arranging member 10. At the end of a pass, the unused solder balls drop into the recess 111 at the low end of the alignment plate.

The loaded template is then removed, an empty template is inserted, and the assembly is tilted in the opposite direction. Then, damming-up plate 12 moves across alignment plate 10 back to its original position, and the second template is loaded. Thus, solder balls are deposited in the apertures in one alignment plate 10 only during a single pass of damming-up plate 10, and not during return of the container to the first end position as called for in claim 26.

In Kasai's second embodiment (illustrated in FIG. 9), the container's bottom surface has a slit opening through which solder balls are charged into the apertures. Again, however, there is no suggestion to pass the container over one arranging plate twice in opposite directions.

Claim 37, which is dependent on claim 26, should be allowed for the same reasons. Fjelstad does not teach or suggest the claimed template configuration.

In view of the foregoing, favorable reconsideration and allowance of this application are respectfully solicited.

I hereby certify that this correspondence is being faxed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Attn: Kiley Stoner at (703) 872-9306 on February 17, 2004

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February 17, 2004
Date of Signature

LAH:msd
Enclosure

Respectfully submitted,

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